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SARCOPENIC OBESITY IN TYPE 2 DIABETES PATIENTS

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Background: Most patients with type 2 diabetes (T2D) have an excess of body weight. Risk of sarcopenia is higher and it occurs earlier than in people without diabetes. Identification of sarcopenic obesity in patients with T2D will allow correcting recommendations for diet and exercise and reducing cardiovascular risks.

Aim: To assess quantitative composition of muscle and adipose tissue in patients with T2D by dual-energy X-ray absorptiometry (DRA) for diagnosis of sarcopenic obesity using current and new sarcopenia criteria.

Material & Methods: 42 patients with T2D (12 men and 30 women), ≥ 50 years of age were included in the study. Body composition was determined on DRA Discovery A (Hologic USA). Fat mass index (FMI), appendicular lean mass index (ALMI), T-score ALMI, T-score ALMI corrected for fat mass and T-ALMI (FMI) corrected for fat mass were calculated.

Results: Normal body weight was found in 2.4%, overweight in 52.4% obesity in 45.2% according assessment of obesity by FMI. Median of FMI was 11.91 (10.40; 13.78) kg/m². Median of ALMI was 7.99 (7.32; 9.05) kg/m². Median T-score ALMI was 2.32 (1.73; 3.08). There was a decrease in appendicular muscle mass with increasing age. An inverse correlation was found between age and T-score ALMI ($r=-0.319$ ($p=0.020$)). According to the results of ALMI and T-score ALMI, we did not identify patients with sarcopenia. However, the calculation of

the T-criteria, corrected for fat mass, led to an appearance of patients (97.6%) who met criteria of sarcopenia (T-score < 2) and sarcopenic obesity was detected in 42.9% ($n=18$).

Conclusion: Based on current criteria for sarcopenia of European Working Group on Sarcopenia, there was no sarcopenic obesity among overweight patients with T2D. However, after adjusting T-ALMI by FMI 42.9%, patients met the sarcopenic obesity criteria.

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